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SCIENCE

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FRIDAY, MAY 4, 1900.

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THE MEDICAL SCHOOL OF THE FUTURE.*

AMONG the intellectual movements that have characterized the century now drawing to a close there is perhaps no one more deserving of careful study than that which is concerned with providing education for people in the school, the academy and the university. The importance of popular education became apparent in proportion as political freedom was secured for the people. Thus Viscount Sherbrooke, better known as the Hon. Robert Lowe, in the reform debates of 1866 and 1867, after the passage of a bill for the extension of the suffrage, uttered the well known words: "We must now at least educate our masters." The same sentiment has also more recently been embodied in the inscription on the Boston Public Library. "The Commonwealth requires the education of the people as the safeguard of order and liberty," and in the presidential address of Dr. J. M. Bodine,† at the meeting of the Association of American Colleges in 1897 we find the same idea thus expressed, "In America the citizen is king. The king must be educated to wield aright his ballot-sceptre."

For many years educators looked upon their work with no little complacency. The educational systems of the various civilized

* Address by the president before the Fifth Triennial Congress of American Physicians and Surgeons given at Washington on May 2nd.

† *American Practitioner and News*, June 26, 1897.

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor, J. McKeen Cattell, Garrison-on-Hudson, N. Y.

The author proposes the terms 'odorophore' and 'odorogen,' to be used in a manner analogous to the 'chromophore' and 'chromogen' of the color chemists. Thus, he considers the phenolic OH as an odorophore, which becomes an odorogen when its H is replaced by an alkyl or acyl group; in support of which he cites the following examples:

$\text{HOC.C}_6\text{H}_4.\text{OH}$ (paraoxybenzaldehyde) = little odor.

$\text{HOC.C}_6\text{H}_4.\text{OCH}_3$ (anisic aldehyde) = odor.

$\text{HOC.C}_6\text{H}_3 < \begin{smallmatrix} \text{OH} \\ \text{OH} \end{smallmatrix}$ (protocatechuic aldehyde) = little odor.

$\text{HOC.C}_6\text{H}_3 < \begin{smallmatrix} \text{OCH}_3 \\ \text{OH} \end{smallmatrix}$ (vanillin) = odor.

$\text{HOC.C}_6\text{H}_3 < \begin{smallmatrix} \text{O} \\ \text{O} \end{smallmatrix} > \text{CH}_2$ (piperonal) = odor.

The work is divided into the following chapters:

I. Halogen and Nitro Compounds.—Includes the halogen derivatives of phenylethane, and of styrol; mirbane and Musc Baur.

II. Aldehydes, Dialdehydes and Oxyaldehydes.—Among the more important aldehydes listed are those of benzoic, phenylacetic, cuminic, cinnamic, salicylic, anisic and piperonylic acids. Vanillin, however, is reserved for the author's volume on 'Les Parfums Comestibles.'

III. Phenols and Phenolic Ethers.—Among others the following are discussed: thymol, carvacrol, anisol, diphenyl ether, anethol, betanaphthyl ethers, eugenol and safrol.

Each chapter begins with a few pages of explanatory text, followed by a tabular classification of the compounds belonging to that particular group. The column headings, for the tables are as follows: trade name; scientific name; formula, empiric and constitutional; method of preparation; literature and patents; properties and characteristic reactions. The references to the literature and patents are particularly valuable.

Although the compounds are well arranged in a logical chemical classification, an Index would nevertheless be a desirable addition.

MARSTON TAYLOR BOGERT.

BOOKS RECEIVED.

Elements de paléobotanique. R. ZEILLER. Paris, G. Carré and C. Naud, 1900. Pp. 421.

A Treatise on Zoology, edited by E. RAY LANKESTER. Part III.: Echinoderma, F. A. BATHER, J. W. GREGORY, E. S. GOODRICH. London, Adams and Charles Black, 1900. Pp. vi + 344.

First Book, Home Geography and the Earth as a Whole. RALPH S. TARR, FRANK M. MCMURRY. New York and London, The Macmillan Company, 1900. Pp. xv + 279.

Prantl's Lehrbuch der Botanik. FERDINAND PAX. Leipzig, Wilhelm Engelmann, 1900. Pp. viii + 455.

Reinhardt's Technic of Mechanical Drafting. CHARLES W. REINHARDT. New York, The Engineering News Co., 1900. Pp. 36. 10 Plates.

SOCIETIES AND ACADEMIES.

THE ACADEMY OF SCIENCE OF ST. LOUIS.

At the meeting of the Academy of Science of St. Louis, on the evening of April 2, the following subjects were presented:

A paper by Dr. H. von Schrenk, entitled 'A Severe Sleet-storm,' and embodying the results of a study of the injury to trees and shrubs by an unusually severe recent sleet-storm, was presented by title.

Dr. W. H. Warren read a paper giving an outline of recent progress in the chemistry of perfumes. For the most part, these substances are high boiling oils. Formerly these oils, which are complex mixtures of several compounds, were obtained exclusively from flowers, but recently some of the essential principles have been produced by chemical means, whereas other artificial perfumes are mere imitations. With a few exceptions the essential principles, which give the perfumes their value, belong to a complex class of organic compounds known as the terpenes. The terpenes are reduction products of cymol. The molecule is characterized by the presence of an atomic linking such as is found in the hydrocarbon ethylene, and the determination of the exact location of these ethylene linkings constitutes a difficulty in studying the terpenes. It is found also that nearly every substance having the properties of a perfume has in its molecule certain atomic groups whose presence exerts a marked influence on the odor. Among the more important of these may be mentioned the aldehyde, ketone, ester, ether and alcohol